

REMARKS / ARGUMENTS

The present application includes pending claims 1-24, all of which have been rejected. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 1-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over USP 4,896,934 ("Arthurs"), in view of USP 7,151,777 ("Sawey"), and further in view of admitted prior art of USP 6,658,002 ("Ross"). The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure, Rev. 6, Sep. 2007 ("MPEP") states the following:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

See the MPEP at § 2142, citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), and *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval). Further, MPEP § 2143.01 states that "the mere fact that references can be combined or modified does not render the

resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art” (citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)). Additionally, if a *prima facie* case of obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

Obviousness also requires that the Examiner provide “some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness.” See *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) quoting *In re Kahn*, 441 F.2d 997,988 (CA Fed. 2006). Put another way, the Examiner should “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR*, 127 S. Ct. at 1741. The Examiner should make “explicit” this rationale of “the apparent reason to combine the known elements in the fashion claimed,” including a detailed explanation of “the effects of demands known to the design community or present in the marketplace” and “the background knowledge possessed by a person having ordinary skill in the art.” *Id.*

With these principals in mind, the Applicant turns to the claim rejections.

I. Claims 1-24 Are Patentable Over The Proposed Combination of Arthurs, Sawey, and Ross

The Applicant now turns to the rejection of claims 1-24 as being unpatentable over Arthurs in view of Sawey and Ross. The Applicant notes that the proposed combination of Arthurs, Sawey and Ross forms the basis for all of the pending rejections.

As a preliminary remark, the Applicant points out that the Examiner incorrectly refers to USP 4,896,934 as “Authurs”. The correct title of this reference is “Arthurs”.

A. Rejection of Independent Claims 1 and 12 under 35 U.S.C. § 103(a)

Claims 1 and 11 recite, in part, “generating a destination port bit map based on the destination address information contained in said frame of digital data.” In this regard, the Examiner has equated Arthurs’ destination bitmap field (as illustrated in Fig. 3 of Arthurs) to the claimed “destination port bit map.” (See, e.g., Final OA, p. 3.) However, the destination bit map field of Arthurs is not a “[generated] . . . based on the destination address information contained in said frame of digital data,” as require by the claims. Instead, it is merely one of the fields contained in each of the data packets that arrive at the input ports 12. (See, e.g., Arthurs, col. 5, lines 39-54.) Thus **it is received** at the network device; it is **not generated** as required by the claims of the present application.

The Examiner recognizes this deficiency of Arthurs. Specifically, although the Examiner alleges that “Arthurs (*sic.*) further discloses using the destination port bit

map,” in the very next sentence he concedes that “Arthurs (*sic.*) does not specifically mention generating the destination port map.” (See Final OA, p. 3.) In order to make up for this deficiency in Arthurs, the Examiner proposes combining Arthurs with Sawey. (See, *e.g.*, Final Office Action, p. 3). In this regard, the Examiner states:

Sawey teaches a crosspoint switch having multicast functionality, wherein Sawey discloses generating the destination port bit map based on the destination address contained in the frame of the digital data (see figure 4, elements 100 ‘receive multicast packet’, 102 ‘generate port map mapping multicast address to destination output ports’; and column 7, lines 41-45, of Sawey).

(Final OA, p. 3-4). Putting aside for the moment whether or not this is an accurate assessment of Sawey, the Examiner has failed to provide “articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness” in the detailed manner described in *KSR*. Rather, the Examiner attempts to support the claim rejections as follows:

The ordinary skilled person would have been motivated to have applied the teaching of Sawey into the system of Arthurs (*sic.*) to generate a destination port bit map because Arthurs (*sic.*) teaches “The present invention relates to an optical switch for use in a fiber optic telecommunications network, and more particularly, to an optical switch with multicast capability. . . . Sawey teaches “The present invention relates generally to packet switching and, more particularly, to a crosspoint switch having multicast functionality. . . . Therefore, Sawey’s teaching could enhance Arthurs’s (*sic.*) system.

(*Id.* (emphasis in original).) In other words, the Examiner apparently alleges that because both Sawey and Arthurs have “multicast capabilities” a person of ordinary skill in the art would have been motivated to incorporate Sawey’s alleged teaching of “generating a destination port bit map” into Arthurs’. **The Examiner fails to explain**

any motivation for making this combination, as required by KSR. The mere fact that Sawey and Arthurs both have “multicast capabilities” does not provide a motivation to combine these references. The Examiner also makes the unsupported allegation that “Sawey’s teaching could enhance Arthurs’s (*sic.*) system.” (See Final OA, p. 3.) The Examiner provides no explanation of how Arthurs’ system would allegedly be enhanced. Notably, in suggesting that a person skilled in the art would combine these references the Examiner ignores the fact that he also contends that “Arthurs (*sic.*) [already] discloses using the destination port bit map However, Arthurs (*sic.*) does not specifically mention generating the destination port map.” (*Id.*) Why would a person of ordinary skill in the art incorporate Sawey’s alleged teaching (“generating the destination port bit map”) into Arthurs’ system if, as alleged by the Examiner, “Arthurs (*sic.*) [already] discloses the destination port bit map?” The answer is that a person of ordinary skill in the art simply would not make this combination. There would be no need to “generate” a destination bit map if it already existed.

In conclusion, there simply is no rationale basis for combining Arthurs and Sawey in the manner suggested by the Examiner. Instead, the Examiner appears to be proposing the combination based solely on improper hindsight. As such, the rejections based on the proposed combination of Arthurs and Sawey are improper and should be withdrawn.

Moreover, even if the references are combined in the manner suggested by the Examiner, independent claims 1 and 10 are still patentable because the resulting combination does not include at least the following limitation of claim 1:

[C]omparing said destination port bit map with a **physical port security bit map** to generate a bit map of allowed destination ports, wherein said **physical port security bit map is generated**, after said receiving, based on information in said received frame of digital data.

Neither Arthurs nor Sawey, alone or in combination, disclose or suggest a “physical port security bit map” as required by this claim element. As such, they also do not disclose or suggest “comparing said destination port bit map with a physical port security bit map.” The Examiner recognizes this deficiency of Arthurs and Sawey. Specifically, although the Examiner alleges that “Arthurs (*sic.*) discloses generating the physical port availability bit map,” in the very next sentence he concedes that “Arthurs (*sic.*) does not specifically mention the physical port security bit map.” (See Final OA, p. 3). In order to make up for this deficiency in Arthurs, the Examiner proposes combining Arthurs with Ross. (See, *e.g.*, Final OA, p. 4). In this regard, the Examiner states:

Ross teaches a method for performing logical operations for packet processing, wherein Ross discloses generating a physical port security bit map based on information in said received frame of digital data (see column 3, line 58 to column 4, line 1 'Thus, if the rule is "deny packets from port 80," the corresponding CAM entry is a bit string representing a value of 80 in the portion of the string corresponding to the port number [i.e., a physical port security bit map]. Note that, as the rules are typically more complex than simple filters on port numbers, the CAM entries typically consists of multiple fields corresponding to the parts of the conventional flow label of a packet. Such fields typically include the IP source address. IP destination address [i.e., information of the packet],

source port number, destination port number, type of service (TOS), and Layer 3 and Layer 4 protocol identification.', of Ross, emphasis added).

(Final OA, p. 4, emphasis added in original). Putting aside for the moment whether or not this is an accurate assessment of Ross, the Examiner has failed to provide "articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness" in the detailed manner described in *KSR*. Rather, the Examiner attempts to support the claim rejections as follows:

The ordinary skilled person would have been motivated to have applied the teaching of Ross into the system of Authurs to generate the physical port security bit map, because Authurs teaches "Illustratively, the electronic control network is in the form of a track which sequentially links all of the input ports and output ports. At the beginning of the track is a token generator which generates control tokens. The control tokens are passed sequentially around the track from port to port." (see column 2, lines 58-63, of Authurs, emphasis added). Ross teaches "The present invention generally concerns data communications systems, in particular internetworking systems and specifically access control techniques for such systems." (see column 1, lines 1315, of Ross, emphasis added). Therefore, Ross' teaching could enhance Authurs's system.

(Final Office Action, p. 4-5, emphasis in original). In other words, the Examiner apparently alleges that because both Arthurs and Ross allegedly relate to "access control techniques", a person of ordinary skill in the art would have been motivated to incorporate Ross' alleged teaching of "physical port security bit map" (and its generating) into Arthurs'. **The Examiner fails to explain any motivation for making this combination, as required by *KSR*. The mere fact that Arthurs and Ross both relate to "access control techniques" does not provide a motivation to combine**

these references. The Examiner also makes the unsupported allegation that “Ross’ teaching could enhance Arthurs’s (*sic.*) system.” (See Final OA, p. 5). The Examiner provides no explanation of exactly how Arthurs’ system would allegedly be enhanced.

In conclusion, there simply is no rationale basis for combining Arthurs and Ross in the manner suggested by the Examiner. Instead, the Examiner appears to be proposing the combination based solely on improper hindsight. As such, the rejections based on the proposed combination of Arthurs and Ross are improper and should be withdrawn.

Even if we assume, *arguendo*, that Arthurs may be combined with Ross, the Examiner’s above argument (Final Office Action, p. 4) regarding Ross is still deficient. More specifically, Ross, at col. 3, line 58 – col. 4, line 1, discloses an example of how a content addressable memory (CAM) can be used to hold bit masks representing elements of access control list (ACL) rules. More specifically, the various rule elements (e.g., a rule “deny packets from port 80”) are implemented by one or more entries in the CAM (e.g., a bit string of 80 is recorded in the corresponding port number portion of the string). However, even though Ross discloses ACL rule implementation using CAM entries, there is still no disclosure of generating a physical port security bit map. Furthermore, Ross also does not disclose that a physical port security bit map is generated based on information in a received frame of digital data, as recited in Applicant’s claim 1.

Accordingly, the proposed combination of Arthurs, Sawey and Ross does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 1 is allowable. Independent claim 12 is similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claim 12 is also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.

B. Rejection of Dependent Claims 2-11 and 13-24

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Arthurs in view of Sawey and further view of Ross has been overcome and requests that the rejection be withdrawn. Additionally, claims 2-11 and 13-24 depend from independent claims 1 and 12, respectively, and are, consequently, also respectfully submitted to be allowable based on the above arguments.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 2-11 and 13-24.

1. Claims 11 and 24

Claims 11 and 24 depend on independent claims 1 and 12, respectively. Therefore, claim 11 is allowable over the combination of Arthurs, Sawey, and Ross at least for the reasons stated above with regard to claims 1 and 12. In addition, the

combination of Arthurs, Sawey, and Ross does not disclose or suggest at least the limitation of “wherein said physical port security bit map is generated dynamically based on a variable parameter,” as recited by claims 11 and 24.

With regard to claim 11, the Final Office Action states the following:

Arthurs (*sic.*), Sawey, and Ross teach the claimed subject matter [of claim 11]: a method of providing physical port security in a digital communication system (see claim 1 above). Ross (*sic.*) further discloses that the bit map is generated dynamically (see col. 3, line 58 to col. 4, line 1, of Ross (*sic.*)).

(Final OA, p. 6). As explained above, the passage of Ross identified by the Examiner discloses an example of how a content addressable memory (CAM) can be used to hold bit masks representing elements of access control list (ACL) rules. More specifically, the various rule elements (e.g., a rule “deny packets from port 80”) are implemented by one or more entries in the CAM (e.g., a bit string of 80 is recorded in the corresponding port number portion of the string). This citation of Ross, however, does not disclose or suggest that “said physical port security bit map is generated dynamically based on a variable parameter,” as recited in claims 11 and 24.

Accordingly, claims 11 and 24 are allowable over the combination of Arthurs, Sawey, and Ross at least for the above reasons.

In general, the Final Office Action makes various statements regarding claims 1-24 and the cited references, which statements are now moot in light of the above. Thus, the Applicant will not address such statements at the present time. However, the Applicant expressly reserves the right to challenge such statements in the future should the need arise (e.g., if such statement should become relevant by appearing in a rejection of any current or future claim).

CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 1-24 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Attorney at (312) 775-8176.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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